

REMARKS

The specification was again objected to for informalities. Applicant requests reconsideration. The specification has been again accordingly amended. In the prior amendment, applicant amended the specification as the examination now requests, again. It appears that the examination failed to consider applicant's prior amendment in its entirety. Request is now specifically made that the examiner take the time to read the first page herein where applicant again states: Applicant amends the Specification as follows: On page 6 line 6 change "integrated" to "integrator". On page 6 line 8 change "quantifier" to "quantizer"., exactly as it was stated in the previous amendment, or indicate why the examiner failed to consider the prior amendment.

Claims 1 and 8 were rejected as unpatentable over Beauducel in view of Palmer. Claims 2-4 and 11 were rejected as unpatentable over Beauducel in view of Palmer in view of Potratz. Claim 5 was rejected as unpatentable over Beauducel in view of Palmer in view of Scott. Claims 6-7 were rejected as unpatentable over Beauducel in view of admitted prior art. Applicant requests reconsideration.

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1 The examination, apparently, has simply reiterated its prior
2 obviousness rejection. Though the examination states that
3 applicant's argument have been considered, the examination does not
4 focus the discussion on precisely how the cited references teach
5 the problem solved and solution of the present invention. In
6 reviewing the language of the prior office action, it appears that
7 the examination used a copy and paste of the prior action with
8 unfocused consideration of applicant's prior response. It is
9 requested that the examination fully consider applicant's response,
10 and provide a focused analysis for the basis of any further
11 rejections.

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13 Where an examination relies upon a tortured reading of the
14 prior art, it is a strong indication of forbidden hindsight
15 reconstruction of the present invention. The elements and their
16 cooperative functions must be suggested in the cited references for
17 the rejections to be proper. Here, the examination is engaging in
18 forbidden hindsight reconstruction based upon a bag-of-parts
19 analysis while relying on an unfocused consideration of applicant's
20 responses as well as a tortured reading of the cited references.

21
22 Perhaps applicant can be of assistance to the examination.
23 It should be understood that inventions are not simply a bag of
24 isolated parts, and that obviousness rejections should not be made
25 merely because claimed parts are found in separate teachings of the
26 prior art, as nearly all inventions rely on known prior art
27 elements, but combined in a new way. It should be also understood
28 that obviousness is determined from the prior art as a whole,

1 fairly read for what it fairly teaches as to the cooperative
2 combination of these parts as particularly claimed, as to both the
3 problem solved and the solution thereto. Where an examination makes
4 an apparent tortured reading of the prior art to support a
5 rejection that tortured reading is strong evidence of
6 nonobviousness and a strong indication of forbidden hindsight
7 reconstruction. Here is a classical case.

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9 The discussion is now focused on claim 1. The invention
10 solves the problem of required synchronized transmissions of laser
11 signals. (See discussion of framing requirements in the background
12 section of the application, for example on page 3 where it states
13 that "These synchronization frames words are overhead data and are
14 typically one to ten percent of the information data words." It is
15 suggested that the examination consider the background for
16 indicating the synchronization problem solved. The solution is the
17 use of the sigma-delta modulator for modulating an analog input and
18 for driving a laser transmitter with a digital binary signal. This
19 sigma-delta modulator, in the preferred form, does not employ key
20 shifting, that is, the transmitted signal is not self-clocking with
21 synchronized transitions nor used with synchronized frame words, as
22 such are not recited in claim 1. Claim 1 specifically recites the
23 cooperative elements of a sigma-delta modulator driving a laser
24 transmitter communicating a binary laser signal. This combination
25 need not employ synchronized laser communications, the problem
26 solved, but rather can be used asynchronously, as a significant
27 advancement in the art, properly deserving of patent protection.

1 The examination cites two references for rejecting claim 1,
2 incorrectly suggesting that these two cited references suggest the
3 combination of sigma-delta modulator for driving a laser
4 transmitter for communication binary modulated laser signal.
5 Particularly, the examination clearly states: "Beauducel et al does
6 NOT specify a modulated binary laser signal", and "Palmer et al
7 teaches a communication system wherein a sigma-delta modulator is
8 USED WITH a laser transmitter". This is where the examination
9 attempts to use forbidden hindsight reconstruction, specifically
10 through the use of the phrase "USED WITH". Palmer uses a sigma-
11 delta modulator to generate a clocking signal for synchronized
12 communications in a laser system. Surely, the examination should
13 recognize the difference between a local oscillator and an input
14 signal modulator. While the sigma-delta is "used-with" a laser
15 transmitter, it is merely used to generate a local oscillator clock
16 signal, such as the clock signal generated by Beauducel's
17 "SYNCHRONIZATION ELEMENT" 5. The sigma-delta modulator used in
18 Beauducel and in the present invention is used to provide a
19 modulated signal, whereas the sigma-delta modulator in Palmer does
20 not, and is only used to generate a high-speed synchronization
21 local oscillator clock signal. ("Alternatively, fractional
22 frequency dividers using sigma-delta modulation of the feedback
23 divider may be USED FOR THE GENERATION OF SUB-INTER MULTIPLES OF
24 THE BASE FREQUENCY", Palmer Col. 3 line 44) Hence, it must be
25 clearly understood that Palmer does not teach using a sigma-delta
26 modulator for modulating the analog input, but rather uses a sigma-
27 delta modulator for generating a digital clock signal for clocking
28 a modulator. Though the term "used with" may be grossly accurate,

1 that surely fails to focus the discussion on how the sigma-delta
2 modulator is actually used in Palmer, for what it fairly teaches.
3 With kind due respect, Palmer is absolutely irrelevant to an
4 obviousness rejection. Perhaps applicant can be of further
5 assistance. The combination of Palmer and Beauducel, for what they
6 fairly teach, is to replace the synchronization element 5 of
7 Beauducel with a sigma-delta modulator of Palmer for generating the
8 local oscillator synchronization signal. Hence, the claimed
9 combination solution is clearly NOT remotely suggested by the
10 combination of the cited references.

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12 The problem solved is also not remotely suggested by the cited
13 references. Beauducel specifically teaches SYNCHRONIZED
14 communications using the synchronization element 5. Further, the
15 coding circuit 6 is used to code the signal with a synchronization
16 clock signal. "the stream of 1-bit words coming from the (sigma-
17 delta) modulator 4 is applied directly here to a coding circuit 6
18 applying a predetermined coding allowing a clock signal to be
19 conveyed at the same time as the signals, ..., suited to an optical
20 type transmission". Beauducel specifically teaches away from the
21 use of binary signal. Hence, Beauducel teaches non-binary
22 synchronized communications suitable for optical transmissions, the
23 very problem that the present invention solves. Palmer teaches a
24 system for use in an OC-XX or a STS-XX SYNCHRONOUS OPTICAL NETWORK.
25 Hence, Palmer also teaches synchronized optical communications,
26 (that coincidentally uses a sigma-delta modulator to generate a
27 local oscillator clocking signal).

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1 Hence, the combination of Beauducel and Palmer does not
2 suggest using a sigma-delta modulator for directly modulating an
3 analog input into an output binary data stream for driving a laser
4 transmitter. Hence, both Beauducel teach optical SYNCHRONOUS
5 communication, and do not remotely suggest the problem solved, and
6 as such, can not possibly suggest the solution thereto, as
7 presently claimed. In fact, they teach just the opposite of the
8 present invention.

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10 The examination states that Beauducel teaches that different
11 transmitters can be used, and "Based on this, the examiner turns to
12 Palmer to show that it is WELL KNOWN in the art to combine a sigma
13 delta modulator and a laser in an optical transmission system".
14 This is the classical BAG-OF-PARTS rejection based upon forbidden
15 hindsight reconstruction, as it is devoid of any discussion on how
16 the sigma-delta modulator in Palmer is actually USED WITH the laser
17 system, and how it can be combined with Beauducel. When one fairly
18 reads Palmer, it is clear that the sigma-delta modulator is not
19 modulating the analog input for driving a laser modulator, but
20 rather is merely used for generating a clock for synchronously
21 driving the data stream modulator that in turn drive the laser
22 transmitter. The cited references teach synchronous communications.
23 The inventor here has proceeded directly contrary, and hence, the
24 cited references are strong evidence of nonobviousness.

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The cited references, when fairly considered, do not suggest using a sigma-demodulator for modulating an analog input into a modulated binary laser signal. The cited references do not, in any way, suggest the problem of synchronous laser communications, the problem solved by the present invention, as both of the cited references teach synchronous communication, and as such, can not possibly suggest the problem solved, nor possibly, the solution thereto. As claim 1 is patentable over the cited references, the remaining dependent claims are equally allowable. Applicant requests allowance of the claims.

Respectfully Submitted

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CERTIFICATE OF MAILING

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20 in the United States Postal Service in an envelope with First Class
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